Amendments to the Claims

Please cancel Claims 31-33 and 35-37. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (previously presented): A packaging cell line comprising:
   a) a mammalian cell;
   b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for a HIV *gagpol* and lacks coding sequences for HIV accessory proteins, Rev response element and constitutive transport elements;
   c) a second retroviral nucleotide sequence in the cell which comprises the coding sequence for a heterologous envelope protein; and
   d) a third retroviral nucleotide sequence in the cell which comprises a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration, wherein said packaging cell line produces a HIV-derived retroviral vector particle.

2. (original): A packaging cell line of Claim 1 wherein the heterologous envelope protein is the G glycoprotein of vesicular stomatitis virus (VSV G).

3. (original): A packaging cell line of Claim 1 wherein the heterologous envelope protein is the amphotropic envelope of the Moloney leukemia virus.

4. (canceled)

5. (previously presented): A packaging cell line comprising:
   a) a mammalian cell;
   b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for a HIV *gagpol* and lacks coding sequences for HIV accessory proteins, Rev response element and constitutive transport elements; and

c) a second retroviral nucleotide sequence in the cell which comprises a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration.

6. (canceled)

7. (previously presented): A packaging cell line comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for a HIV *gagpol* and lacks coding sequences for HIV accessory proteins, Rev response element and constitutive transport elements; and

c) a second retroviral nucleotide sequence in the cell which comprises the coding sequence for a heterologous envelope protein.

8. (previously presented): A method of producing a packaging cell line which produces a HIV-derived retroviral vector particle, comprising co-transfecting mammalian host cells with:

a) a first plasmid comprising a codon optimized DNA sequence which encodes HIV *gagpol* proteins and lacks DNA sequences encoding HIV accessory proteins, Rev response element and constitutive transport elements;

b) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

c) a third plasmid comprising a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration, thereby producing a packaging cell line which produces a HIV-derived retroviral vector particle.

9. (original): A method of Claim 8 wherein the heterologous envelope protein is the G glycoprotein of vesicular stomatitis virus (VSV G).

10. (original): A method of Claim 8 wherein the heterologous envelope protein is the amphotropic envelope of the Moloney leukemia virus.

11. (canceled)

12. (previously presented): A method of producing a HIV-derived retroviral vector particle comprising the steps of:

a) co-transfecting mammalian host cells with:

i) a first plasmid comprising a codon optimized DNA sequence which encodes HIV *gagpol* proteins and lacks DNA sequences encoding HIV accessory proteins, Rev response element and constitutive transport elements;

ii) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

iii) a third plasmid comprising a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration,

b) maintaining the transfected cells under conditions suitable for virus particle production; and

c) recovering virus particle produced in step b).

13. (original): A method of Claim 12 wherein the heterologous envelope protein is the G glycoprotein of vesicular stomatitis virus (VSV G).

14. (original): A method of Claim 12 wherein the heterologous envelope protein is the amphotropic envelope of the Moloney leukemia virus.

15. (canceled)

16. (previously presented): A packaging cell line comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for a lentivirus *gagpol* and lacks coding sequences for lentivirus accessory proteins, Rev response element and constitutive transport elements;

c) a second retroviral nucleotide sequence in the cell which comprises the coding sequence for a heterologous envelope protein; and

d) a third retroviral nucleotide sequence in the cell which comprises a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration,

wherein said packaging cell line produces a lentivirus-derived retroviral vector particle.

17. (original): A packaging cell line of Claim 16 wherein the heterologous envelope protein is the G glycoprotein of vesicular stomatitis virus (VSV G).

18. (original): A packaging cell line of Claim 16 wherein the heterologous envelope protein is the amphotropic envelope of the Moloney leukemia virus.

19. (canceled)

20. (previously presented): A packaging cell line comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for lentivirus *gagpol* and lacks coding sequences for lentivirus accessory proteins, Rev response element and constitutive transport elements; and

c) a second retroviral nucleotide sequence in the cell which comprises a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration.

21. (canceled)

22. (previously presented): A packaging cell line comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for lentivirus *gagpol* and lacks coding sequences for lentivirus accessory proteins, Rev response element and constitutive transport elements; and

c) a second retroviral nucleotide sequence in the cell which comprises the coding sequence for a heterologous envelope protein.

23. (previously presented): A method of producing a packaging cell line which produces a lentivirus-derived retroviral vector particle, comprising co-transfecting mammalian host cells with:

a) a first plasmid comprising a codon optimized DNA sequence which encodes lentivirus *gagpol* proteins and lacks DNA sequences encoding lentivirus accessory proteins, Rev response element and constitutive transport elements;

b) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

c) a third plasmid comprising a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration, thereby producing a packaging cell line which produces a lentivirus-derived retroviral vector particle.

24. (original): A method of Claim 23 wherein the heterologous envelope protein is the G glycoprotein of vesicular stomatitis virus (VSV G).

25. (original): A method of Claim 23 wherein the heterologous envelope protein is the amphotropic envelope of the Moloney leukemia virus.

26. (canceled)

27. (previously presented): A method of producing a lentivirus-derived retroviral vector particle comprising the steps of:

a) co-transfecting mammalian host cells with:

i) a first plasmid comprising a codon optimized DNA sequence which encodes lentivirus *gagpol* proteins and lacks DNA sequences encoding lentivirus accessory proteins, Rev response element and constitutive transport elements;

ii) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

iii) a third plasmid comprising a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration,

b) maintaining the transfected cells under conditions suitable for virus particle production; and

c) recovering virus particle produced in step b).

28. (original): A method of Claim 27 wherein the heterologous envelope protein is the G glycoprotein of vesicular stomatitis virus (VSV G).

29. (original): A method of Claim 27 wherein the heterologous envelope protein is the amphotropic envelope of the Moloney leukemia virus.

30-49. (canceled)